



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/596,681

06/21/2006

Uwe Scheim

WAS0778PUSA

9418

22045 7590 09/10/2008

BROOKS KUSHMAN P.C.
1000 TOWN CENTER
TWENTY-SECOND FLOOR
SOUTHFIELD, MI 48075

EXAMINER

OJURONGBE, OLATUNDE S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

09/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,681	Applicant(s) SCHEIM ET AL.	
	Examiner OLATUNDE S. OJURONGBE	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060626</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 4, lines 10-11 cites that Y may be identical or different and are a halogen atom or "pseudohalogen" radical and no definition is rendered as to what a pseudohalogen radical is. The examiner is unaware of the existence of the term.

Appropriate correction is required.

Claim Objections

2. **Claim 14** is objected to because of the following informalities:

The claim recites " wherein at *last* one organosilicon compound (A)" instead of "wherein at least one organosilicon compound (A)".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 10,11 and 15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For Claims 10 and 15, there are no definitions for R and formula (V) respectively.

Line 10 of claim 11 defines Y as " or pseudohalogen radical" and no definition was rendered in the claim or the specification as to what "pseudohalogen radical" is.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 10, 12 and 13** rejected under 35 U.S.C. 102(b) as being anticipated by Schattenmann et al (US 2003/0045666).

Regarding **claim 10**, Schattenmann et al teaches organopolysiloxanes having quaternary ammonium containing the general formula I [0017, line 1-0027, line 1] and exemplifies the organopolysiloxanes [0042, line 1-0043, line 2]; the organopolysiloxanes having quaternary ammonium serve as at least one organosilicon compound having at least one unit of formula (II) of the instant claim.

Considering a repeating unit of the organopolysiloxane [0042, line 1- 0043, line 2], starting from $\text{Si}(\text{CH}_3)_2$ and ending at one of the $\text{Si}(\text{CH}_3)_2$ of $(\text{Si}(\text{CH}_3)_2\text{O})_{50}$, the organopolysiloxane has at least one unit of the formula (II) of the instant claim, in which:

- R^2 are identical and are CH_3 ,
- R^3 are identical and are CH_3 ,
- X is Cl^- , which is an inorganic anion,
- R^4 is $-(\text{CH}_2)_3\text{OCH}_2\text{-A-}$, in which A is $-\text{CH}(\text{OH})\text{CH}_2\text{-}$ or $-\text{CH}_2\text{CH}(\text{OH})\text{-}$; -

$(\text{CH}_2)_3\text{OCH}_2\text{-A-}$ is a substituted hydrocarbon radical interrupted by oxygen atom, which is a heteroatom.

Art Unit: 1796

Schattenmann et al further teaches a process for the preparation of the organopolysiloxanes by reacting an epoxy group containing organopolysiloxane of formula (III) with a primary amine [0069, lines 1-6] in a molar ratio of epoxy groups to amine, more preferably 2:1 [0071, lines 1-5]. Since the epoxy group containing organopolysiloxane of formula (III) is in excess, the prepared organopolysiloxanes having quaternary ammonium groups will inherently react with the excess epoxy group containing organosiloxane of formula (III) or its derivative.

The epoxy rings of the epoxysiloxane of formula (III) of Schattenmann et al inherently undergo conversion to alcohol when water or a mixture containing water is used as solvent. Since there are two epoxy rings in the epoxysiloxane of formula (III) of Schattenmann et al, there are at least two alcohol radicals, hence at least two condensable radicals in the siloxane. This siloxane serves as an organosilicon compound having at least two condensable groups of the instant claim.

Though Schattenmann et al does not teach a crosslinkable material, the examiner notes that this is an inherent property of the composition.

Regarding **claim 12**, Schattenmann et al teaches all the claim limitations as set forth above. The taught organopolysiloxane [0042, line 1-0043, line 2] conforms to the general formula (III) of the instant claim.

The $-(\text{Si}(\text{CH}_3)_2\text{O})_{50}-$ radical of the organopolysiloxane [0042, line 1-0043, line 2] is the same as $-\text{Si}(\text{CH}_3)_2-(\text{OSi}(\text{CH}_3)_2)_{49}-$; when m is for example 2, and starting a repeating unit from $-(\text{OSi}(\text{CH}_3)_2)_{49}-$ and ending at $-\text{Si}(\text{CH}_3)_2-$ of the split $-(\text{Si}(\text{CH}_3)_2\text{O})_{50}-$,

Art Unit: 1796

- D^1 is a hydrogen atom,
- h is 0,
- d is 50 (a combination of $-(OSi(CH_3)_2)_{49}-$ and the $-Si(CH_3)_2-$ next to it),
- R^2 is CH_3 ,
- R^4 is $-(CH_2)_3OCH_2-A-$ of Schattenmann et al,
- R^3 is CH_3 ,
- g is 0,
- K is 0,
- n is 2,
- X^- is Cl^- .

Regarding **claim 13**, modified Schattenmann et al teaches all the claim limitations as set forth above and further teaches the organopolysiloxanes having a viscosity of preferably 50,000 to 5,000,000 mPas at 25°C [0054, lines 1-3].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1796

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. **Claims 10-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu (US 2002/0161116) in view of Schattenmann et al (US 2003/0045666).

Regarding **claim 10**, Yu teaches a composition for treating textile [0003, lines 1-5], comprising a compound of the formula 2 [0012] and compounds of the formula 3b [0017]; the compound of the formula 2 and compounds of the formula 3b of Yu serve as at least one organosilicon compound having at least two condensable groups of the instant claim.

Art Unit: 1796

Though Yu does not teach at least one organosilicon compound having at least one unit of the formula (II) of the instant claim, Yu further teaches that other polysiloxanes can be added to the composition of the invention [0106, lines 1-7].

Schattenmann et al teaches organopolysiloxane polymers bearing quaternary ammonium groups of the general formula (I) [0017] and exemplifies the organopolysiloxanes [0042, line 1-0043, line 2]; Schattenmann et al further teaches that the organopolysiloxanes having quaternary ammonium groups can be used in bacteriocidal or as constituents of textile finishings [0083, lines 1-5].

Since both compositions of Yu and Schattenmann et al are in the same field of endeavor- compositions for textile finishings and the bacteriocidal/germicidal effect of siloxanes bearing quaternary ammonium groups is known in the art, one of ordinary skill in the art would have incorporated any of the organopolysiloxanes having quaternary ammonium groups of Schattenmann et al, including example [0042, line 1-0043, line 2], into the composition of Yu based on the bacteriocidal effect of the organopolysiloxanes.

Regarding **claim 11**, modified Yu further teaches examples of compounds of the formula 3b to include methyltrimethoxysilane [0126, line 1].

Methyltrimethoxysilane conforms to formula (I) of the instant claim.

Regarding **claim 12**, the taught organopolysiloxane [Schattenmann et al, 0042, line 1-0043, line 2] of modified Yu conforms to the general formula (III) of the instant claim.

Art Unit: 1796

The $-(\text{Si}(\text{CH}_3)_2\text{O})_{50}-$ radical of the organopolysiloxane [0042, line 1-0043, line 2] is the same as $-\text{Si}(\text{CH}_3)_2-(\text{OSi}(\text{CH}_3)_2)_{49}-$; when m is for example 2, and starting a repeating unit from $-(\text{OSi}(\text{CH}_3)_2)_{49}-$ and ending at $-\text{Si}(\text{CH}_3)_2-$ of the split $-(\text{Si}(\text{CH}_3)_2\text{O})_{50}-$,

- D^1 is a hydrogen atom,
- h is 0,
- d is 50 (a combination of $-(\text{OSi}(\text{CH}_3)_2)_{49}-$ and the $-\text{Si}(\text{CH}_3)_2-$ next to it),
- R^2 is CH_3 ,
- R^4 is $-(\text{CH}_2)_3\text{OCH}_2-\text{A}-$ of Schattenmann et al,
- R^3 is CH_3 ,
- g is 0,
- K is 0,
- n is 2,
- X^- is Cl^- .

Regarding **claim 13**, modified Yu et al teaches all the claim limitations as set forth above and further teaches the organopolysiloxanes having quaternary ammonium groups having a viscosity of preferably 50,000 to 5,000,000 mPas at 25°C [Schattenmann et al, 0054, lines 1-3].

Regarding **claim 14**, when B^1 and B^2 are hydroxy and/or alkoxy [0026, lines 1-3], w is from 30 to about 1000 [0027], and x is 0 to about 50 [0028], the taught compound of the formula 2 [0012] of modified Yu conforms to the formula (IV) of the instant claim.

Regarding **claims 15 and 16**, modified Yu further teaches that when the composition of the invention are used as textile coatings, a catalyst is preferably present [0123, lines 1-3], hence, the composition of modified Yu consist essentially of the organopolysiloxanes having quaternary ammonium groups [Schattenmann et al, 0017 and 0046], the compound of the formula 2[0012], the compounds of the formula 3b [0017] and the catalyst.

Regarding **claim 17**, modified Yu further teaches curing the composition of the invention to obtain a condensation product [0136, lines 17-19]. The condensation product is a molding produced by crosslinking the crosslinkable material.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLATUNDE S. OJURONGBE whose telephone number is (571)270-3876. The examiner can normally be reached on Monday-Thursday, 7.15am-4.45pm, EST time, Alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.S.O.

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796

